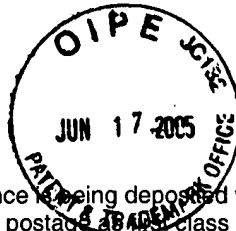


Application No. 10/621,504

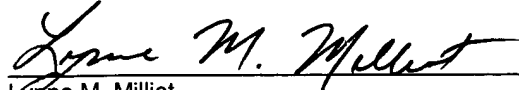
Atty Docket No. HBES 1000-1

IFW



**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on 14 June 2005.

  
Lynne M. Milliot

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of Inventor:

Martin MALLINSON

Application No. 10/621,504

Confirmation No. 2600

Filed: 17 July 2003

Title: **DEVICE AND METHOD FOR SIGNAL  
PROCESSING**

Group Art Unit: 2644

Examiner: Andrew C. FLANDERS

**Customer No. 22470**

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.56**

Sir:

It is requested that the information identified in this statement be considered by the Examiner and made of record in the above-identified application. This statement is not intended to represent that a search has been made or that the information cited in the statement is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56.

Enclosed with this statement is a Form PTO-SB/08. The Examiner is requested to initial the form and return it to the undersigned in accordance with M.P.E.P. 609.

Also enclosed is a copy of a PCT Search Report mailed 28 February 2005 for a corresponding PCT Application.

Also enclosed with this statement is a copy of each cited document as required by 37 C.F.R. 1.98. The exception to this, in accordance with the 05 August 2003 Official Gazette Notice in which the USPTO waives the requirement for submitting copies of U.S. Patent and Publications for cases filed after 30 June 2003, is that copies of U.S. Patent documents and copies of U.S. Patent publications are not being submitted.

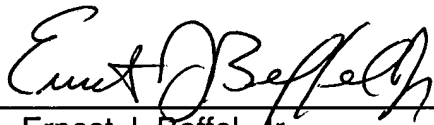
This statement should be considered under 37 C.F.R. 1.97(c) because it is being filed before the mailing date of a FINAL office action, a Notice of Allowance, or an action that otherwise closes prosecution in the subject application, whichever occurs first, AND it is accompanied by the \$180 fee set forth in 37 C.F.R. 1.17(p).

*Fee Authorization.* The Commissioner is hereby authorized to charge underpayment of any additional fees or credit any overpayment associated with this communication to Deposit Account No. 50-0869 (HBES 1000-1). A duplicate copy of this authorization is enclosed.

Respectfully submitted,

HAYNES BEFFEL & WOLFELD LLP

Date: 14 June 2005

By:   
Ernest J. Beffel, Jr.  
Registration No. 43,489

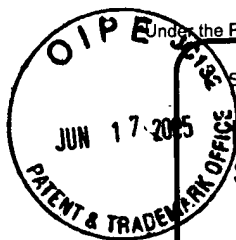
HAYNES BEFFEL & WOLFELD LLP  
P.O. Box 366  
Half Moon Bay, CA 94019  
Telephone: (650) 712-0340  
Facsimile: (650) 712-0263

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Substitute for form 1449A/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 2

## **Complete if Known**

Application Number 10/621,504  
Filing Date 17 July 2003  
First Named Inventor Martin MALLINSON  
Group Art Unit 2644  
Examiner Name Andrew C. FLANDERS  
Attorney Docket Number HBES 1000-1

## **U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	A1	2004/0165661		Braun	08-26-2004	
	A2	6795004		Masuda et al.	09-21-2004	
	A3	5559467		Smedley	09-24-1996	
	A4	5974089		Tripathi et al.	10-26-1999	
	A5	6344811		Melanson	04-05-2002	
	A6	6466087		Ruha	10-15-2002	
	A7	6794930		Nurminen	09-21-2004	
	A8					
	A9					
	A10					
	A11					
	A12					
	A13					
	A14					
	A15					
	A16					
	A17					
	A18					
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	A20					

## **FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
	B1							
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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
		Application Number	10/621,504		
		Filing Date	17 July 2003		
		First Named Inventor	Martin MALLINSON		
		Group Art Unit	2644		
		Examiner Name	Andrew C. FLANDERS		
		Attorney Docket Number	HBES 1000-1		
Sheet	2	of	2		

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	JORGE VARONA, "Power Digital-to-Analog Conversion Using Sigma-Delta and Pulse Width Modulations," ECE1371 Analog Electronics II, ECE University of Toronto, pp. 1-14, 2001.	
	C2	ERIK BRESCH and WAYNE T. PADGETT, "TMS320C67-Based Design of a Digital Audio Power Amplifier Introducing Novel Feedback Strategy," Rose-Hulman Institute of Technology, Electrical and Computer Engineering Department, pp. 1-16, 1999.	
	C3	K. P. SOZANSKI, R. STRZELECKI and Z. FEDYCZAK, "Digital Control Circuit for Class-D Audio Power Amplifier," Power Electronics Specialists Conference, PESC 2001 IEEE 32nd Annual, volume 2, pp. 1245-1250, 2001.	
	C4	MORTEN JOHANSEN and KARSTEN NIELSEN, "A Review and Comparison of Digital PWM Methods for Digital Pulse Modulation Amplifier (PMA) Systems," 107th Convention of Audio Engineering Society, September 24-27, 1999, New York, New York.	
	C5	THOMAS TAUL, KARSTEN NIELSEN and MICHAEL A.E. ANDERSEN, "Comparing Nonlinear with Linear Control Methods for Error Correction in Switching Audio Amplifier Output Stages," 104th Convention of Audio Engineering Society, May 16-19 1998, Amsterdam.	
	C6	KARSTEN NIELSEN, "MECC - A Novel Control Method for High End Switching Audio Power Amplification," 105th Convention of Audio Engineering Society, September 26-29, 1998, San Francisco, California.	
	C7	CRILLES BAK RASMUSSEN, "Hybrid Digital-Analog Feedback Audio Amplifiers," 2004 Dissertation, in cooperation with Bang & Olufsen ICEpower A/A, Lyngby 2004, Eksamensprojekt, NR. IMM-Thesis-2004-68. (NOT PRIOR ART)	
	C8	M. O. J. HAWKSFORD, "Time-Quantized Frequency Modulation, Time-Domain Dither, Dispersive Codes, and Parametrically Controlled Noise Shaping in SDM," J. Audio Eng. Soc., Vol. 52, No. 6, pp. 587-617, June 2004. (NOT PRIOR ART)	
	C9	D. WEILER, P.A. NIELSEN, D. HAMMERSCHMIDT, O. MACHUL and B. J. HOSTICKA, "Single Bit Sigma-Delta Modulator with Nonlinear Quantization for $\mu$ -Law Coding," 23rd European Solid-State Circuits Conference, Southampton, United Kingdom, 16-18 September 1997.	

Examiner Signature	Date Considered
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